IN THE CLAIMS:

CLEAN VERSION OF CLAIMS

1. (Three times amended) A method for modifying the rheology of a slurry of a mineral-containing solid material and water, wherein the mineral-containing solid material is nickel ore, cobalt ore, precious metals ore, copper ore, taconite, mineral sands, coal bauxite or a mixture thereof, the method comprising adding to the slurry a sulfonate-containing polymer wherein the polymer is prepared by polymerization of vinyl monomers containing a sulfonate functional group with an amu ranging from about 2,000 to about 100,000.

2. The method of claim 1 wherein the polymer is selected from the group consisting of a sulfonate-containing polyacrylamide, a sulfonate-containing polyacrylic acid or a mixture thereof.

4. (Once amended) The method of claim 1 wherein the polymer comprises repeat units derived from acrylamide, acrylic acid and acrylamido-2-methyl propane sulfonate monomers.

5. (Once amended) The method of claim 1 wherein the polymer is further characterized as having a molecular weight ranging from about 2,000 to about 20,000 amu.

6. (Once amended) The method of claim 1 wherein the polymer is further characterized as comprising repeat units derived from about 3 to about 40 mole% acrylamido-2-methyl propane sulfonate monomer, from about 5 to about 45 mole% acrylamide monomer and from about 30 to about 70 mole% acrylic acid monomer.

7. (Once amended) The method of claim 1 wherein the polymer is further characterized as comprising repeat units derived from about 5 to about 10 mole% acrylamido-2-methyl propane sulfonate monomer, from about 30 to about 40 mole% acrylamide monomer and from about 55 to about 65 mole% acrylic acid monomer.